



CURTISS-WRIGHT CORPORATION
ELECTRONIC FITTINGS & COMPONENTS DIVISION



CURTAC



SERIES 15
SUB-MINIATURE CONNECTORS
with Removable Crimp Type Contacts

SERIES 15

(SERIES 1540)

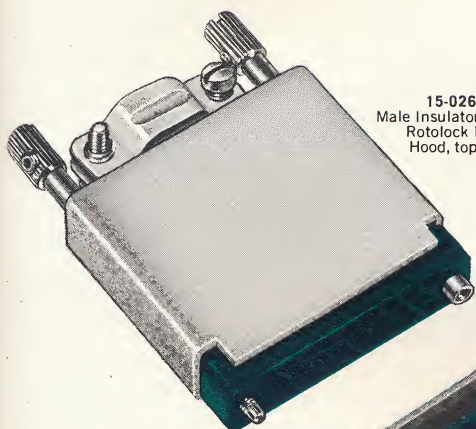
SUB-MINIATURE CONNECTORS

featuring rear removable crimp contacts

15-014
Male Insulator, 14 contacts
Standard Guide Hardware

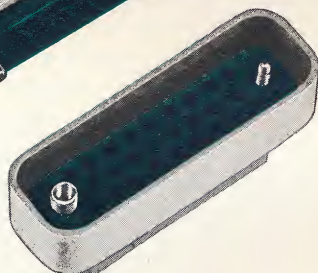


15-014F
Female Insulator, 14 contacts
Standard Guide Hardware



15-026MSKH
Male Insulator, 26 contacts
Rotolock Hardware
Hood, top opening

15-026FSC
Female Insulator, 26 contacts
Fixed Lockscrews
Female Shell



15-075MSK
Male Insulator, 75 contacts
Rotolock Hardware



15-075FS
Female Insulator, 75 contacts
Fixed Lockscrews

Actual Size

Electronic Fittings' Series 15 rectangular rack and panel "Precision Connectors" now provide a standard sub-miniature configuration with a rear-removable crimp termination contact. These highly reliable and versatile connectors are available in units to accommodate 5, 7, 11, 14, 20, 26, 34, 42, 50, 75 and 104 wires.

These connectors offer outstanding features—rear removable crimp contacts with the revolutionary patented CURTAC contact construction—and a wide choice of design options. Optional four-time closed entry rear-removable crimp termination contacts are interchangeable with existing solder-type sub-miniature connectors. Closed entry barrel member of CURTAC and four-time contacts prevents probe damage, insures self-aligning during insertion and withdrawal. Patented CURTAC design, described in detail on opposite flap, provides greater reliability combined with low insertion and withdrawal forces. Positive polarization is insured by pairs of opposed guide pins and guide sockets made of passivated stainless steel. Lockscrew hardware prevents disengagement during vibration and shock as specified in MIL-STD-202A. Anodized aluminum hoods and shells are available for all units.

Crimp termination contacts speed up connector wiring by eliminating soldering operations. For improved crimping techniques, contact retention springs are an integral part of the connector, allowing a clean contact.

Contacts are supplied separately from connector housings and are wired independently. Contacts are easily hand inserted without tools into rear of mounted or dismounted housings. They may be quickly removed from the rear of housings, as inserted, with a simple retention spring releasing tool. In this way, circuits can be replaced or relocated without disturbing, dismounting or unmating the connector, as is required in competitive units where the connectors must be disconnected for frontal removal or release of contacts. Connector housings may be installed at any time without waiting for completion of wiring operations. Wire crimping is quickly accomplished with a standard MS-3190 hand tool, or an automatic crimper for quantity production.

Our engineering department can design adaptations and modifications for applications where required.

ELECTRICAL AND MECHANICAL RATINGS

Voltage Rating:

	Breakdown Voltage	Working Voltage
At Sea Level	1800 Volts RMS	450 Volts RMS
At 70,000 Feet	600 Volts RMS	250 Volts RMS

Current Rating:

5 Amps Continuous	7.5 Amps Maximum
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Minimum Creepage Distance:

Between Contacts (Front)	.05
Contact to Ground (Front)	.24

Minimum Air Space:

Between Contacts	.06
Contacts to Ground	.08

Contacts, center-to-center

.125

Contact pin diameter:

CURTAC	.030
Four-time	.040

Wire Size #20, #22, #24 AWG

STANDARD MATERIALS

BODY MOLDING COMPOUNDS:

Green Diallyl Phthalate, Glass Filled (MIL-M-19833, Type GDI-30). Other compounds are available on request.

CURTAC CONTACTS:

Female receptacles have brass bodies, with Berylco wires. Male contact pins are brass, Finish is gold plate over silver. Other platings are available on request.

FOUR-TIME CONTACTS:

Female receptacles are spring temper phosphor bronze. Male contacts pins are brass, Finish is gold plate over silver. Other materials and platings are available on request.

GUIDE PINS:

Non-magnetic passivated stainless steel. Other materials are available on request.

LOCKSCREWS:

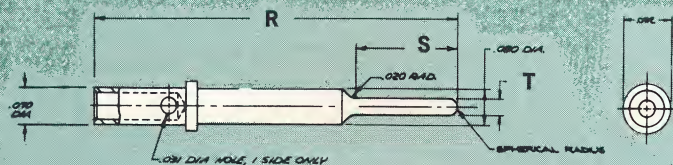
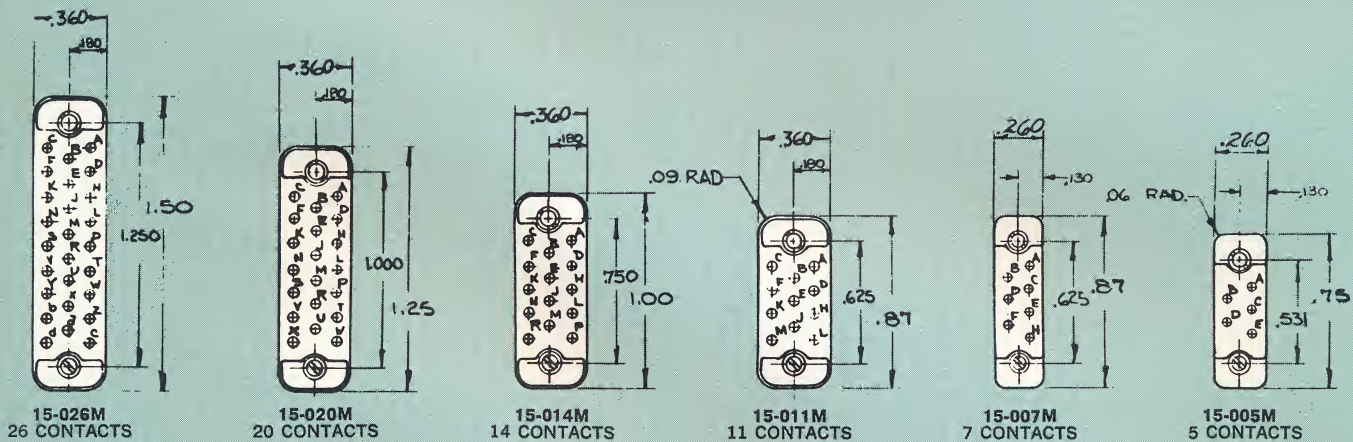
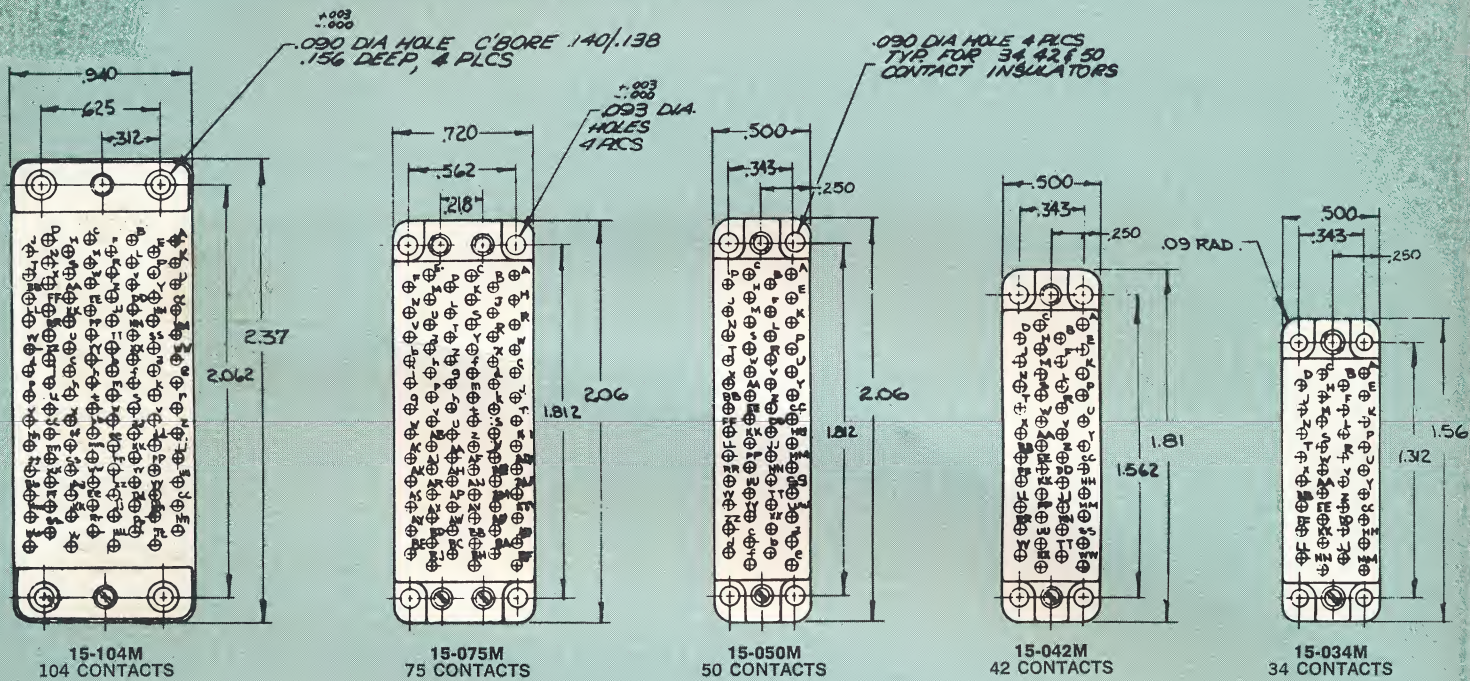
Non-magnetic passivated stainless steel. Other materials are available on request.

HOODS AND SHELLS:

Anodized aluminum.

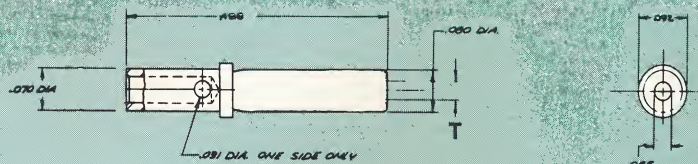
SUB-MINIATURE CONNECTORS

OUTLINE DIMENSIONS—SERIES 15 and SERIES 1540 MOULDINGS



OUTLINE DIMENSIONS—CONTACT PINS

PART NO.	DIM. R	DIM. S	DIM. T
96-22M04	.712	.225	.030
96S-22M00	.642	.155	.040

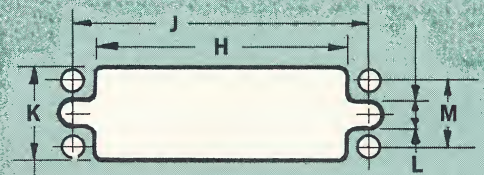
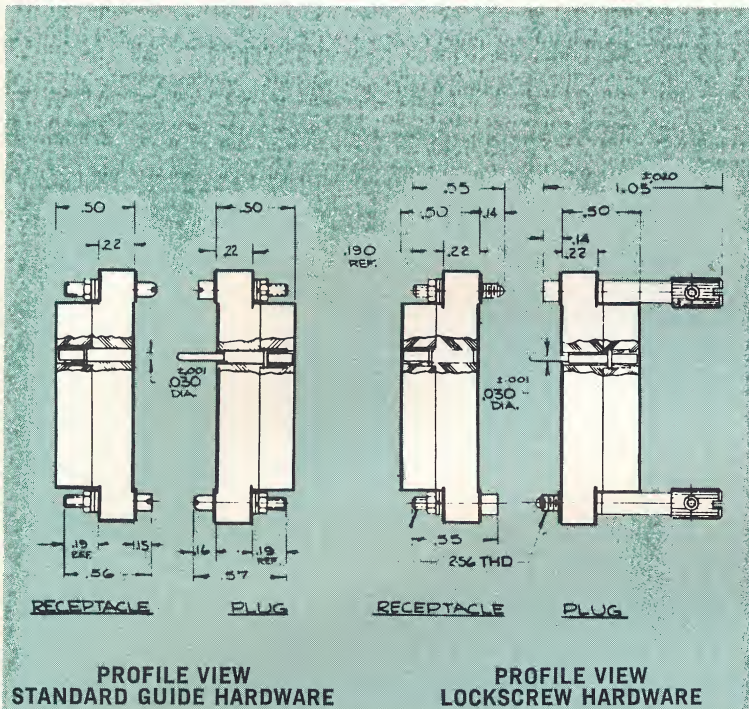
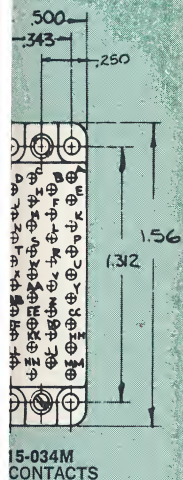


OUTLINE DIMENSIONS—SOCKETS

PART NO.	DIM. T
CURTAC SOCKET 96-22F02	.030
FOUR-TINE SOCKET 96S-22F00	.040

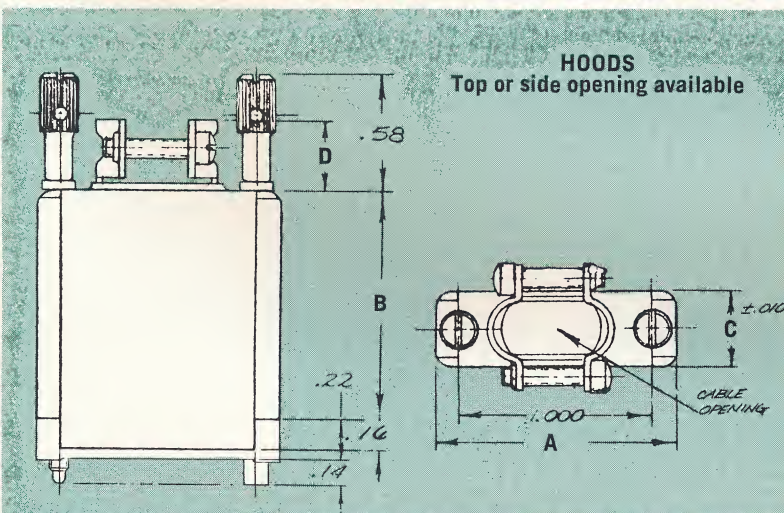
SERIES 15

(SERIES 1540)



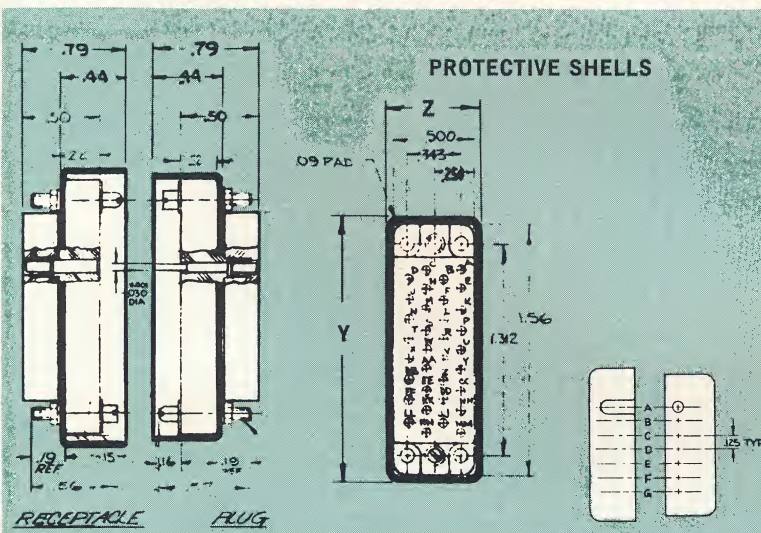
PANEL CUT-OUT DIMENSIONS

SIZE	DIM. H	DIM. J	DIM. K	DIM. L	DIM. M
5	.450	.531	.260	.096	
7	.545	.625	.260	.096	
11	.545	.625	.369	.096	
14	.670	.750	.369	.096	
20	.920	1.000	.369	.096	
26	1.170	1.250	.369	.096	
34	1.160	1.312	.510	.096	.343
42	1.410	1.562	.510	.096	.343
50	1.660	1.812	.510	.096	.343
75	1.660	1.812	.728	.413	.562
104	1.770	2.062	.947	.120	.625



OUTLINE DIMENSIONS — HOODS

SIZE	CABLE OPENING	DIM. A	DIM. B	DIM. C	DIM. D
5					
7					
11	.25 x .40	.93	.94	.40	.36
14	.25 x .50	1.00	.94	.40	.36
20	.28 x .62	1.25	1.19	.407	.36
26	.28 x .62	1.50	1.19	.407	.337
34	.44 x .72	1.56	1.19	.567	.44
42	.44 x .72	1.81	1.19	.567	.44
50	.44 x .72	2.06	1.19	.567	.44
75	.53 x .97	2.06	1.19	.785	.49
104					



OUTLINE DIMENSIONS — SHELLS

SIZE	PLUG		RECEPTACLE	
	DIM. Z	DIM. Y	DIM. Z	DIM. Y
5	.34	.88	.42	.96
7	.34	.97	.42	1.06
11	.44	.97	.53	1.06
14	.44	1.10	.53	1.18
20	.44	1.35	.53	1.43
26	.44	1.60	.53	1.68
34	.60	1.66	.68	1.74
42	.60	1.91	.68	2.00
50	.60	2.16	.68	2.24
75	.82	2.16	.90	2.24
104	1.04	2.48	1.12	2.56



DIM. T
.030
.040

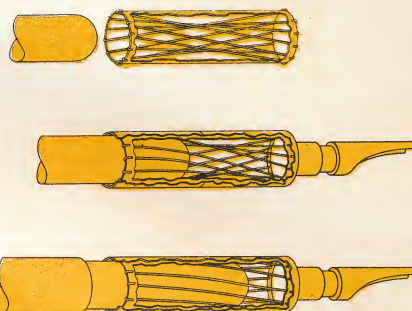
CURTAC Patented Contacts - Series 96

CURTAC design contacts used in Series 15 "Precision Connectors" provide linear contact through elastic wrapping action by each contact wire, under tension. Patented CURTAC construction gives **reliable and consistent electrical performance**—low voltage drop, high current capability and low noise generation. Rugged closed entry construction is built in. Mating action is smooth and insertion and withdrawal forces are low.

CURTAC construction is of finest quality. All parts including wires are plated prior to assembly, assuring full plating with no "shadow" effects, and no plating fluid residues that could cause long term corrosive action. This construction permits use of heavy plating of costly materials in the small areas where it counts most...at the point of engagement with the pin.

Electrical reliability of patented CURTAC contacts is assured by the design. Each wire literally wraps around the mating pin, forming a 'line' contact with a minimum of 3 contact points; the 5 wires in each contact provide a **minimum of 15 contact points**. Conventional contacts provide an average of 3 contact points.

Under shock or vibration excursion the mating pin "sees" a symmetrical pattern in both lateral and longitudinal directions resulting in **unsurpassed low noise generation levels**. Patented CURTAC sockets with 1/2 ounce separation force in conventional plastic insulators showed **no evidence of interruption** when vibrated to 250g's up to 3000cps using detection equipment sensitive to 20 nanosec or longer interruptions.



Cutaway diagram
patented CURTAC design

Four-Tine Closed Entry Socket Contacts - Series 96S

interchangeable with all other standard subminiature connectors

Series 15 connectors using four-tine closed entry rear-removable crimp termination contacts mate and are interchangeable with Electronic Fittings' sub-miniature Series 5040 solder-termination connectors, and other MIL-C-8384 sub-miniature types. This permits changeover to crimp production from slower and more costly solder termination methods without re-designing hardware.

Electronic Fittings' four-tine closed entry barrel design

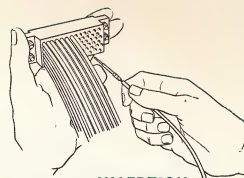
makes it impossible to spring the socket contact beyond its yield point, preventing probe damage. Four-tine spring construction provides more uniform retention forces and larger contact surface than conventional socket contacts. The lead-in of the barrel member is chamfered so that a pin entering any section of the elevated clearance hole in the molded housing will be guided into the socket without damage.

3 EASY STEPS FOR WIRING, INSERTING AND REMOVING SERIES 96 and SERIES 96S CONTACTS



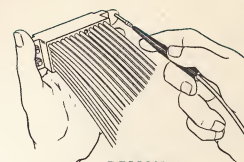
CRIMPING

Hand operated or automatic crimping tool quickly secures contact to wire.



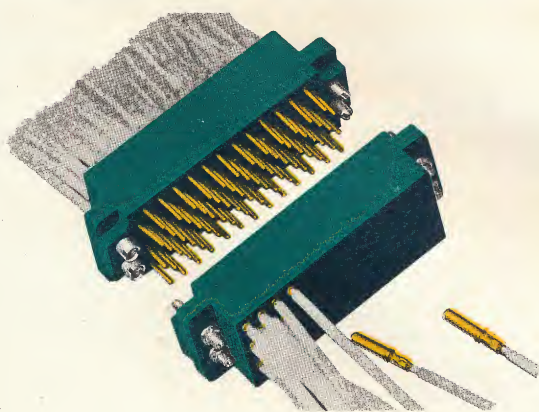
INSERTION

Crimped contacts are inserted manually, without tools.



REMOVAL

Simple tool ejects contact and wire from rear of connector.



CONTACT REMOVAL TOOL
Part No. 91-015

This simple tool releases contact retention clips for easy contact removal from rear of housing.

Contacts are inserted in housing by hand. No tools are required.



CONTACT HAND CRIMPING TOOL
Part No. 90-021

This hand tool incorporates four indent cycle controlled crimp per MIL-T-22520. Automatic crimp tooling is also available.

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HOW TO ORDER SUB-MINIATURE CONNECTORS

Typical part number for a Series 15, 34 contact female insulator, complete with Rotolock hardware, Hood (top opening) and male shell polarized at position "A"—

15-034FSKHPA

SERIES

15—Sub-miniature crimp removable **CURTAC** connector (contacts ordered separately).

1540—Sub-miniature crimp removable standard four-tine connector (contacts ordered separately).

INSULATOR MATERIAL

Omit if standard material required

FS —Diallyl Phthalate, Glass Filled (Brown) Type GDI-30, MIL-P-19833

OD —Diallyl Phthalate, Orlon Filled (Blue) Type SDI-3, MIL-M-14

SDG—Diallyl Phthalate, Glass Filled (Green) Type SDG, MIL-M-14

Other thermal plastic materials available on request.

NUMBER OF CONTACTS

This specifies the number of contact spaces required in each connector, i.e., 7, 26 or 50, etc. This is **not** where CURTAC or four-tine contacts are ordered. See Contact Ordering Information below.

BODY STYLE

M—Male plug

F —Female receptacle

VARIATIONS

Any special requirements, variations, major modifications not covered previously will be noted here.

SHELL POLARIZATION

If protective shells are ordered, and polarization is required, designate

A—Position "A"

B—Position "B", etc.
Refer to drawings for positions

PROTECTIVE SHELL

Omit if shells not required

P—Male shell

C—Female shell

HOODS

Omit if hoods not required

H —Hood, top opening

H-1—Hood, side opening

HARDWARE

Omit if standard guide hardware required.

X —No guide hardware required

SK—Rotolock with knob

SL—Rotolock with slotted head

S —Fixed lockscrew

HOW TO ORDER CURTAC or FOUR-TINE CONTACTS

CURTAC sockets are Part No. 96-22F02. These must be ordered in sufficient quantity to match order for Series 15 female receptacle units, i.e., an order for 100 Series 15 34-unit receptacles requires at least 3,400 Part No. 96-22F02 sockets.

Pins for CURTAC sockets are Part No. 96-22M04; check quantities as above.

Four-tine closed entry sockets are Part No. 96S-20F00. These must be ordered in sufficient quantity for Series 15 female receptacle units, checking quantities as above. Note: Series 15 sub-miniature connectors intermate with Series 5040; e.g. a 5040-34P connector will mate with a 15-34S connector body that has 34 No. 96S-20F00 contacts installed.

Pins for Four-tine sockets are Part No. 96S-20M00. All above notes apply.



CURTISS-WRIGHT CORPORATION

ELECTRONIC FITTINGS & COMPONENTS DIVISION

29 SUGAR HOLLOW ROAD, DANBURY, CONN. 06811
TEL. (203) 744-2000 TWX 203-744-2899

SALES BULLETIN

efc

ELECTRONIC FITTINGS & COMPONENTS DIVISION

CURTISS-WRIGHT CORPORATION

29 SUGAR HOLLOW ROAD
DANBURY, CONN. 06811
TEL. 203 - 744-2000
TWX 203 - 744-2899

"N E W S R E L E A S E"

SUBJECT: CRIMP REMOVABLE SUBMINIATURE
CONNECTOR, SERIES 1540

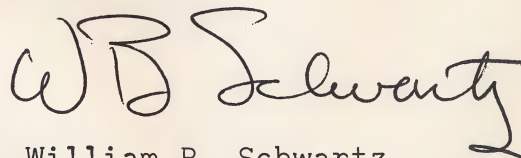
DATE: JULY 16, 1965

NOW AVAILABLE; A COMPLETE SERIES OF SUBMINIATURE
"CRIMP EXTRACTABLE" RACK AND PANEL CONNECTORS.

SERIES 1540 AS DESCRIBED IN THE ATTACHED BROCHURE
PROVIDES CONVERSION TO "CRIMP FROM SOLDER" WITHOUT
AFFECTING SHEET METAL ASSEMBLY. THESE CONNECTORS
ARE INTERCHANGEABLE WITH ALL STANDARD SUBMINIATURE
CONNECTORS NOW IN EQUIPMENTS.

PROTOTYPE QUANTITIES ARE AVAILABLE FOR IMMEDIATE
DELIVERY.

CONTACT THE WRITER OR YOUR LOCAL AREA REPRESENTATIVE
FOR ADDITIONAL INFORMATION.



William B. Schwartz
General Sales Manager

WBS:lm

Electronic Fittings & Components Division's new series of Sub-Miniature Connectors have exclusive CURTAC[®] design features and crimp removable, rear insertion, rear release contacts. □ Also, with standard sized contacts, these new connectors are interchangeable, in the field, with our Series 5040 connectors and all other conventional Sub-Miniature solder cup type connectors!

Series 15 Sub-Miniature Connectors from

Here's a completely new series of Sub-Miniature Connectors — now available with either patented CURTAC contacts or standard # 20, .040" diameter contacts.

With exclusive CURTAC contacts, these connectors withstand shock and vibration up to 250g's and 3,000 cps. CURTAC construction gives reliable electrical characteristics — low voltage drop, high current capability and low noise generation. Closed entry construction — with low insertion and withdrawal forces.

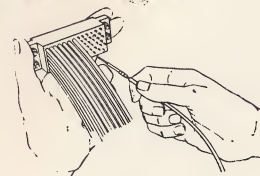
To replace solder cup connector inconvenience with crimp removable features, Series 15 Connectors are also furnished with standard .040" diameter contacts, and will mate with and are interchangeable, in the field, without changes in mountings, with Series 5040 and other makes of conventional solder cup connectors!

Available in sizes to accommodate 7 to 104 contacts, spaced on .125" centers. Meet or exceed MIL-C-8384.



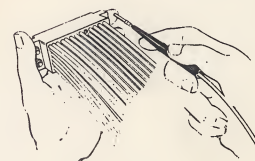
INSERTION

Crimped contacts are inserted manually, without tools.



REMOVAL

Simple tool ejects contact and wire, from rear of connector, for fast and easy on-the-spot replacement.



For complete information, write or call:

ELECTRONIC FITTINGS & COMPONENTS DIVISION
CURTISS-WRIGHT CORPORATION

29 Sugar Hollow Road • Danbury, Connecticut • Phone (203) 744-2000